

## REMARKS

Re-examination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow, are respectfully requested.

Claims 23-34 remain pending in this application.

Claims 23-25 and 29-31 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,776,206 to Segatta et al. for reasons set forth in paragraph (3) of the Office Action. Since JP 09302146 is discussed and relied upon in the body of the rejection, Applicants will proceed on the assumption that the rejection is based on Segatta et al. '206 in view of JP '146.

Segatta et al. '206 discloses an elastomeric composition containing a blend of elastomers: 80-97 parts by weight of natural rubber, synthetic cis-1,4-polyisoprene or cis-1,4-polybutadiene, and 3-20 parts by weight of trans-1,4-polybutadiene. Carbon black may be added as a reinforcing filler in an amount of 20-200 phr, preferably 30-60 phr (column 1, lines 66-67 and column 2, line 1). Silica, if used, may be used in an amount of about 5-25 phr (column 2, lines 3-5). In Examples 1 and 2 of this reference, "conventional amounts" of carbon black are added (column 5, line 30 and column 6, line 47). The conventional amount of carbon black is not disclosed nor is there any suggestion in Segatta et al. '206 of carbon black/silica blends or any surface areas for carbon black or silica.

The Office Action states that Segatta et al. '206 discloses a composition comprising 80-97 parts natural rubber or cis 1,4-polyisoprene, 20-200 phr carbon black, 5-25 phr precipitated silica, and additional diene elastomer. This document has been carefully reviewed and no disclosure can be found of compositions as

described in the Office Action. Respectfully, Applicants submit that there is nothing disclosed in Segatta et al. '206 which would motivate those skilled in the art to use blends of carbon black and silica, let alone in the proportions of each and in the total amount of the blend in the composition as specified in present claims 23-25. Nor is there any specific teaching in Segatta et al. '206 which would motivate those skilled in the art to select a white filler such as silica as opposed to any of the other fillers disclosed in the document, let alone a silica having a surface area of 30-260 m<sup>2</sup>/g as in claims 29-31. If anything, this document would lead those skilled in the art away from the use of silica in favor of the preferred carbon black in conventional amounts.

JP '146 discloses a bead filler for radial tires comprising 100 parts by weight of elastomer, 0-50 parts by weight carbon black and 20-150 parts by weight of silica. The total amount of carbon black and silica is 50-150 parts by weight of the composition. This document discloses a silica having a nitrogen adsorption specific surface area in the range of 210-300 m<sup>2</sup>/g and a carbon black having a nitrogen adsorption specific surface area in the range of 50-150 m<sup>2</sup>/g.

It is noted that the minimum amount of filler required in the compositions of JP '146 is 50 phr, whether silica is used alone or combined with carbon black. This amount is significantly above the maximum amount in the ranges set forth in claims 23-25 or 29-31. Thus, this reference teaches that the benefits attained by using the silica and carbon black fillers disclosed therein are coupled with the requirement that a minimum of 50 phr filler must be employed. This conclusion is supported by the working Examples in JP '146 which show amounts of silica and/or carbon black of at least 80 phr. Those of ordinary skill in the art would not be motivated to use the silica and carbon black disclosed in JP '146 in amounts outside the 50-150 range

since the expectation would be that the benefits of the invention of the reference would not be attained.

Moreover, data in the present specification shows that the use of elastomeric compositions containing an amount of a blend of silica and carbon black within the range of claim 23 unexpectedly provides better properties in comparison to compositions which contain silica/carbon black blends outside the claimed range. Specifically, test compositions 1 and 2 in Table 1 (page 10) which contain 40 phr silica/carbon black blends show significantly higher break and tearability indices than the values exhibited by test composition 3 containing 55 phr of a silica/carbon black blend; note Table 2 on page 11 of the specification.

Test 4 was a control using 35 phr carbon black as the sole filler as in the compositions disclosed in the Examples of Segatta et al. '206. It can be seen from the data in Table 2 that test formulation 4 has significantly lower break and tearability indices compared to compositions within the scope of present claims 23-25.

With respect to claims 29-31 where the reinforcing filler is a white filler such as silica used in amounts of 15-40 phr, the test data in Tables 5 and 6 on pages 16-17 show that compositions containing silica as the sole filler in an amount of 30 phr (Test 18, 19) unexpectedly exhibited substantially superior elongation at break in the tearability test at 100°C in comparison to a similar composition containing 30 phr carbon black (test 20). These results could not have been predicted from a review of the disclosures of Segatta et al. '206 and JP '146.

Based on the above observations and comments, Applicant respectfully submits that the combined teachings of Segatta et al. '206 and JP '146 fail to establish a *prima facie* case of obviousness. Moreover, the test data in the present

specification clearly shows that the presently claimed invention yields unexpected results which could not have been predicted from the cited prior art. Accordingly, the §103(a) rejection of claims 23-25 and 29-31 over Segatta et al. '206 in view of JP '146 should be reconsidered and withdrawn and such action is earnestly requested.

Claims 26, 27, 32 and 33 were rejected under 35 U.S.C. §103(a) as unpatentable over Segatta et al. '206 in view of JP '146 and further in view of U.S. Patent No. 6,008,295 to Takeichi et al. for the reasons given in paragraph (4) of the Office Action. Also, claims 26, 28, 32 and 24 (34?) were rejected under 35 U.S.C. §103(a) as unpatentable over Segatta et al. '206 in view of JP '146 and further in view of U.S. Patent No. 5,844,050 to Fukahori et al. for the reasons given in paragraph (5) of the Office Action. Reconsideration of these rejections is respectfully requested for at least the reasons which follow.

Takeichi et al. '295 discloses a rubber composition for a tire tread wherein the composition contains a silicon- or tin halide-modified elastomer. Takeichi et al. '295 fails to teach an elastomeric composition comprising a reinforcing filler selected from a silica or a blend of silica and carbon black, wherein the reinforcing filler is present in an amount of 20-45 phr or 20-35 phr. In addition, there is no suggestion or motivation to combine Segatta et al. '206 and JP '146 with Takeichi et al. '295 to arrive at the presently claimed invention.

Fukahori et al. '050 disclose a divinyl benzene-modified conjugated diene polymer and its use as a rubber composition in tires. However, Fukahori et al. '050 fails to teach an elastomeric internal filler mix comprising a reinforcing filler selected from a white filler such as silica or a blend of silica and carbon black, where the reinforcing filler is present in an amount within the presently claimed ranges. In

addition, there is no suggestion or motivation to combine Segatta et al. '206 and JP '146 with Fukahori et al. '050 to arrive at the presently claimed invention.

Accordingly, the §103(a) rejections based on the combination of Segatta et al. '206 with JP '146 and Takeichi et al. '295 or Fukahori et al. '050 should be reconsidered and withdrawn for at least the aforementioned reasons. Such action is earnestly solicited.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at (703) 838-6683.

Respectfully submitted,

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